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The SAMR Model

With the infusion of technology into education today, teachers are often left wondering how to best use technology to meet the needs of their students. Developed by Dr. Ruben Puentedura, the Substitution Augmentation Modification Redefinition (SAMR) Model shows how computer technology can impact teaching and learning. The model breaks technology integration into four different categories. When put together the four levels make up the name for Puentedura’s model.

The first level of this model is Substitution. At this level, computer technology is used for no more than to perform the same tasks that have previously been done on paper. Examples of this could be typing a paper in Microsoft Word instead of writing it on paper or having students print out a worksheet on a mathematical topic, complete the assignment and then turn it in for credit. This is often the level where teachers are most comfortable with technology integration, but in reality there is little if any gain for the students due to the technology.

The second level is Augmentation. This level is not incredibly different than Substitution, but could be best defined as using computer technology to more effectively and efficiently performing the same tasks as before. For example, you could ask students to complete their essay from above using a Google Doc instead of Microsoft Word. This would allow for them to use the tools of auto saving and for them to share their work using a cloud. Students could also be asked to complete an assessment using a tool such as a Google Form instead of using pencil and paper. The main advantage to using technology in this way is to gain immediate feedback.

The third level, and the first that could truly be described as moving from teacher centered to student centered is Modification. At this level, common tasks are often modified and enhanced through the use of technology. An example of a task at this level would be to have students complete their essays from above, but to now ask them to record their essays as a song that could then be played as a soundtrack for an audience. This task forces students to take a greater care in their work as they need to make certain that it will meet the approval of their audience. It also increases their technological abilities as they would be using new computer based tools to complete their assignment.

The final level of the SAMR Model is Redefinition. At this level, computer technology allows for new tasks that could not have previously been completed. A couple examples of assignments could be a class creating a documentary with each member assigned different tasks. The computer would not only be a medium for presentation, but would also become the primary method for acquiring information and for communicating their ideas to one another. This assignment would incorporate web 2.0 applications in order to work together and share ideas. Redefinition, when compared to Bloom’s taxonomy, would likely involve tasks from the synthesis and evaluation levels.

As is the case with all education initiatives today, the SAMR model is a movement toward asking students to do more than we have been accustomed to doing in the past. For hundreds of years, students have been asked to perform calculations and write papers using pencils and pens. Today, we have the ability to do so much more with our recent technological advances.

The Substitution and Augmentation levels of the model really do not do much to change education as it has been established. This, unfortunately, is where most teachers feel comfortable using technology in their classrooms. How many times have we all seen teachers who discuss their technology use and simply use PowerPoints to present the same information that they have been giving through a lecture for years. The Modification and Redefinition levels are places that we should all be aiming to go with our students regularly.

These levels involve the expansion of tasks through the integration of new computer based technologies. To put it simply, the wide range of tools that we have today for students that were not available twenty years ago mean that the expectations must also be different. This model, in my opinion, is a technological view at the Common Core Standards. The push, especially in mathematics, is on problem solving, thinking through new situations and being able to effectively communicate their ideas. Today’s web 2.0 tools allow for such great collaboration and the use of technology allows students to consider methods of problem solving that were not available to previous generations.

This model does come, however, with some reservations. As with any new initiative, teachers must consider the amount of time that these higher level assignments, especially those involving technology that is new to both teachers and students, would demand. The amount of planning as well as the amount of class time that would be necessary is a major concern. With the high stakes testing that takes place today, teachers are often concerned with having enough time to teach all the concepts that they need. The time needed for planning and implementation would be substantial for these type of challenging assignments. The answer to this concern is, no doubt, being able to incorporate numerous skills into one assignment. However, this leads to the concern that teachers are not always given the latitude within the curriculum to enhance or change assignments to meet the higher levels of the SAMR model.

The other concern that teachers would certainly have is that they may not know the technology well enough to teach using these higher level assignments. Teachers would undoubtedly need access to professional development. The question is where this would come from. One option, although I am personally very skeptical of this, is to use Hippasus, a consulting firm formed by Dr. Puentedura. This firm offers different seminars and also consultation options to different educational bodies. This component of my research was rather unsettling to me in that it seems that everyone is simply looking at the field of education as their newest avenue to getting rich. When I see a model such as this which would certainly benefit school systems and ultimately students as it would better prepare them for future problem solving endeavors, it saddens me to see someone looking to profit from it.

The SAMR model, in my opinion, is a fabulous way to bring attention to the need to create new assignments and tasks that challenge students to go above and beyond, taking ownership in their learning. Today’s technological opportunities allow us to do so much more than the simple productions that we have been asking students to do for years. Students should be asked to collaborate using technology as a means to share ideas, find information, and produce collaborative projects. In these ways, it goes hand in hand with the current push in education toward student centered activities that characterizes the Common Core.

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